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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,113	03/19/2004	Neil G. Jacobson	X-1550 US	8497

24309 7590 11/09/2007

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EXAMINER	
ABAD, FARLEY J	

ART UNIT	PAPER NUMBER
4171	

MAIL DATE	DELIVERY MODE
11/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/805,113	JACOBSON ET AL.	
	Examiner	Art Unit	
	Farley Abad	4171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *18 June 2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-20 are presented for examination.

2. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

Specification

3. The use of the trademark XILINX has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 4, 5, 9, 15, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lulla et al (hereinafter Lulla), U.S. Patent No. 6,922,820, in view of Lipe et al (hereinafter Lipe), U.S. Patent No. 5,748,980.

As to claim 1, Lulla discloses a method for identifying a system [Lulla, col. 1, lines 6-9], comprising:

reading values of identification codes [Lulla, fig. 3 items 102-106, col. 2, lines 46-50] from a device [Lulla, fig. 3] of the system; and

generating a system identifier [Lulla, col. 2, lines 44-46] value that identifies the system as a function of the read values [Lulla, col. 2, lines 48-50].

However, Lulla does not explicitly disclose reading values of ID codes from a plurality of devices.

Lipe discloses the use of reading values of ID codes from a plurality of devices [Lipe, col. 7, lines 62-67, col. 8, lines 1-8] in order to identify the devices [Lipe, col. 7, line 67, col. 8, lines 1-3].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of Lulla by implementing reading values of identification codes from each of a plurality of devices of the system because it would provide Lulla's method with the enhanced capability of identifying devices connected to the system bus [col. 8, lines 1-8].

As to claim 2, Lulla discloses reading the value of a first register in the device, wherein the state of each first register is a non-programmable value [Lulla, col. 1, lines 57-58].

However, Lulla does not explicitly disclose a plurality of devices.

Lipe discloses a plurality of devices which can be accessed by reading the identification code from a register [Lipe, col. 8, lines 25-28, lines 37-40] in order to identify the devices [Lipe, col. 7, line 67, col. 8, lines 1-3].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of Lulla by implementing reading the value of a first register in each of the devices, wherein the state of each first register is a non-programmable value because it would provide Lulla's method with the enhanced capability of identifying devices connected to the system bus [col. 8, lines 1-8].

As to claim 4, Lulla discloses inputting a control code to each of the plurality of devices

outputting the values of the identification codes serially from at least one of the plurality of devices in response to the control code [Lulla, fig. 4, col. 3, lines 36-50].

As to claim 5, Lulla discloses reading values from registers in the devices, wherein each register is user-programmable [Lulla, col. 4, lines 54-58, specifically user software VERILOG, used to provide device ID's].

As to claim 9, Lulla discloses wherein the generating step includes concatentating the values [Lulla, col. 5, line 6].

As to claim 15, Lulla discloses wherein the devices are programmable logic devices [Lulla, col. 1, lines 6-9] and the values of identification codes from each of the plurality of programmable logic devices is a configuration state of the programmable logic device [Lulla, col. 3, lines 51-63, specifically CNFG and DEV indicate a state of the device. CNFG and DEV are inputs to the ID CODE GENERATION LOGIC which outputs the identification code, fig. 4].

As to claim 17, Lulla discloses wherein the system includes a plurality of non-volatile memories coupled to the plurality of devices [Lulla, col. 2, lines 54-59], the devices are boundary-scan accessible [Lulla, col. 2, lines 64-66], and the reading step includes reading the values of the identification codes from the plurality of non-volatile memories [Lulla, col. 2, lines 54-59].

As to claim 19, Lulla discloses an apparatus [Lulla, fig. 3] for identifying a system [Lulla, col. 1, lines 6-9], comprising:

means for reading values of identification codes [Lulla, fig. 3 items 102-106, col. 2, lines 46-50] from a device [Lulla, fig. 3] of the system; and

means for generating a system identifier value [Lulla, col. 2, lines 44-46] as a function of the values of the identifications codes from the device [Lulla, col. 2, lines 48-50].

However, Lulla does not explicitly disclose reading id values from a plurality of devices.

Lipe discloses the use of reading values of ID codes from a plurality of devices [Lipe, col. 7, lines 62-67, col. 8, lines 1-8] in order to identify the devices [Lipe, col. 7, line 67, col. 8, lines 1-3].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of Lulla by implementing reading id values from each of a plurality of devices of the system because it would provide Lulla's method with the enhanced capability of identifying the devices [Lipe, col. 7, line 67, col. 8, lines 1-3].

As to claim 20, Lulla discloses an arrangement for identifying a system Lulla, col. 1, lines 6-9], comprising:

a software tool hosted on a data processing arrangement [Lulla, fig. 4]; and

a system interface coupled to the tool and to the system [Lulla, fig. 3];

wherein the tool is configured to read values of identification codes [Lulla, fig. 3 items 102-106, col. 2, lines 46-50] from a device of the system via the system interface and generate a system identifier value as a function of the values of the identifications codes from the device [Lulla, col. 2, lines 48-50].

However, Lulla does not explicitly disclose a plurality of devices.

Lipe discloses the use a plurality of devices [Lipe, col. 7, lines 62-67, col. 8, lines 1-8] in order to identify the devices [Lipe, col. 7, line 67, col. 8, lines 1-3].
It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of Lulla by implementing reading id codes from each of a plurality of devices because it would provide Lulla's method with the enhanced capability of identifying the devices [Lipe, col. 7, line 67, col. 8, lines 1-3].

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lulla, in view of Lipe, and in further view of Dreyer et al (hereinafter Dreyer), U.S. Patent No. 5,794,066.

As to claim 3, the modified Lulla does not explicitly discose reading the value of a second register in each of the devices, wherein each second register is user-programmable.

Dreyer discloses the use of reading the value of a second register [Dreyer, col. 6, lines 44-57, fig. 1, item 20] in each of the devices, wherein each second register is user-programmable [Dreyer, col. 4, lines 56-61] in order to manipulate the bits by a read or write [col. 4, lines 62-63].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of the modified Lulla by implementing reading the value of a second register in each of the devices, wherein each second register is user-programmable because it would provide the modified Lulla's method

with the enhanced capability of manipulating the bits by a read or write [col. 4, lines 62-63].

7. Claims 6, 7, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lulla, in view of Lipe, and further in view of Jacobson et al (hereinafter Jacobson), U.S. Patent No. 5,841,867.

As to claim 6, Lulla does not explicitly discloses storing in the register of the at least one programmable logic device a checksum value derived from configuration data used in configuring the at least one programmable logic device.

Jacobson discloses the use of storing in the register [Jacobson, col. 7, lines 63-65, specifically the LFSR] of the at least one programmable logic device [Jacobson, col. 4, lines 24-25] a checksum value [Jacobson, col. 7, lines 24-25, specifically the signature] derived from configuration data used in configuring the at least one programmable logic device [Jacobson, col. 3, lines 45-49] for the purpose of verifying the PLD programming [Jacobson, col. 3, lines 22-24].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of the modified Lulla by implementing storing in the register of the at least one programmable logic device a checksum value derived from configuration data used in configuring the at least one programmable logic device because it would provide the modified Lulla's method with the enhanced capability of verifying the programming of the PLD [Jacobson, col. 3, lines 22-24].

As to claim 7, the modified Lulla discloses wherein the generating step includes concatenating the values [Lulla, col. 5, line 6].

As to claim 16, Lulla discloses configuration states [Lulla, col. 3, lines 51-63, specifically CNFG and DEV indicate a state of the device. CNFG and DEV are inputs to the ID CODE GENERATION LOGIC which outputs the identification code, fig. 4]

However, Lulla does not explicitly disclose generating checksum values from each of the configuration states.

Jacobson discloses the use of checksum values [Jacobson, col. 7, lines 24-25, specifically the signature] in order to verify programming PLDs [Jacobson, col. 3, lines 22-24].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of the modified Lulla by implementing generating checksum values from each of the configuration states because it would provide the modified Lulla's method with the enhanced capability of verifying the programming of PLDs with respect to a sequence of input values [Jacobson, col. 8, lines 22-26].

8. Claims 8, 10, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lulla, in view of Lipe, and in further view of Tang, U.S. Patent No. 5,635,855.

As to claim 8, the modified Lulla does not explicitly disclose wherein the plurality of devices are arranged and coupled in a scan chain, and the function used in

generating the system identifier value is further a function of respective positions of the plurality of devices in a scan chain.

Tang discloses the use of wherein the plurality of devices are arranged and coupled in a scan chain [Tang, fig. 4, col. 7, line 15], and the function used in generating the system identifier value [Tang, col. 7, line 19, specifically ispSTREAM file] is further a function of respective positions of the plurality of devices in a scan chain [Tang, col. 9, lines 34-36] for the purpose of filling the ispSTREAM file in order to program the PLDs [Tang, col. 7, lines 11-18].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of the modified Lulla by implementing wherein the plurality of devices are arranged and coupled in a scan chain, and the function used in generating the system identifier value is further a function of respective positions of the plurality of devices in a scan chain because it would provide the modified Lulla's method with the enhanced capability of programming the PLDs [Tang, col. 7, lines 11-18].

As to claim 10, the modified Lulla does not explicitly disclose wherein the plurality of devices are arranged and coupled in a scan chain, and the function used in generating the system identifier value is further a function of respective positions of the plurality of devices in a scan chain.

Tang discloses the use of wherein the plurality of devices are arranged and coupled in a scan chain [Tang, fig. 4, col. 7, line 15], and the function used in generating the system identifier value [Tang, col. 7, line 19, specifically ispSTREAM file] is further a

function of respective positions of the plurality of devices in a scan chain [Tang, col. 9, lines 34-36] for the purpose of filling the ispSTREAM file in order to program the PLDs [Tang, col. 7, lines 11-18].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of the modified Lulla by implementing wherein the plurality of devices are arranged and coupled in a scan chain, and the function used in generating the system identifier value is further a function of respective positions of the plurality of devices in a scan chain because it would provide the modified Lulla's method with the enhanced capability of programming the PLDs [Tang, col. 7, lines 11-18].

As to claim 18, the modified Lulla does not explicitly disclose storing the generated system identifier.

Tang discloses the use of storing the generated system identifier [Tang, col. 7, lines 11-12] in order to program the PLDs [Tang, col. 7, lines 12-16].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of the modified Lulla by implementing storing the generated system identifier because it would provide the modified Lulla's method with the enhanced capability of programming the PLDs [Tang, col. 7, lines 12-16].

9. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lulla, in view of Lipe, in view of Jacobson, and in further view of IBM™ Technical Disclosure Bulletin (hereinafter IBM), NA8909262.

As to claim 11, the modified Lulla discloses the invention substantially.

The modified Lulla discloses inputting a control code to each of the plurality of devices;

outputting the values of the identification codes serially from a at least one of the plurality of devices in response to the control code [Lulla, fig. 4, col. 3, lines 36-50].

However, the modified Lulla does not explicitly disclose outputting values of the identification codes from a boundary scan register.

IBM discloses the use of using a portion of the boundary scan register as the identification register [IBM, specifically "However, a portion of the boundary scan register can be used to implement the device identification function"] for the purpose of saving all the circuitry in the original identification register [IBM, p. 2, lines 4-7].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of the modified Lulla by implementing outputting the values of the identification codes from a boundary-scan register because it would provide the modified Lulla's method with the enhanced capability of saving all the circuitry in the original identification register [IBM, p. 2, lines 4-7].

As to claim 12, the modified Lulla does not expliclity disclose wherein the control code is a boundary-scan SAMPLE instruction.

Jacobson discloses the use of the control code as a boundary-scan SAMPLE instruction [Jacobson, col. 2, lines 51-52] in order to select the boundary scan register [Jacobson, col. 2, lines 51-52].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of the modified Lulla by implementing wherein the control code is a boundary-scan SAMPLE instruction because it would provide the modified Lulla's method with the enhanced capability of selecting the boundary scan register [Jacobson, col. 2, lines 51-52].

As to claim 13, the modified Lulla does not explicitly disclose wherein the control code is a boundary-scan EXTEST instruction.

Jacobson discloses the use of the conrol code as a boundary-scan EXTEST instruction [Jacobson, col. 2, lines 53-54] in order to select the boundary scan register [Jacobson, col. 2, lines 53-54].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the method of the modified Lulla by implementing wherein the control code is a boundary-scan EXTEST instruction because it would provide the modified Lulla's method with the enhanced capability of selecting the boundar-scan register [Jacobson, col. 2, lines 53-54].

As to claim 14, Lulla does not explicitly disclose wherein the boundary scan register is one of an IDCODE register and a USERCODE register.

However, Lulla discloses a boundary-scan register, ID CODE register, and a USERCODE register [fig. 1] in between the TDI and TDO.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute one register for the other in order to achieve the predicatable result of outputting values of identification codes from a register.

Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shiell et al, U.S. Patent No. 6,065,113 discloses identifying a device with an identifier code [Shiell, col. 2, lines 24-42].

Hartmann, U.S. Patent No. 7,117,414 discloses identifying a circuit through a circuit identification number [Hartmann, col. 2, lines 60-67].

Schultz et al, U.S. Patent No. 6,191,614 discloses a CRC register to detect transmission errors [Schultz, col. 3, lines 27-36].

Whetsel, U.S. Patent No. 7,065,692 discloses instructions such as Extest, Sample/Preload, IDcode, Usercode [Whetsel, col. 3, lines 53-67].

Nishihara et al, U.S. Patent No. 6,336,209 discloses a unit containing an identifier of its own circuit information [Nishihara, col. 6, lines 57-61].

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farley J. Abad whose telephone number is (571) 270-3425. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ramesh Patel can be reached on (571) 272-3688. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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